

**Listing of Claims:**

Claim 1 (currently amended): In a communication network, a method for forwarding data across said network, said method comprising:  
associating each of two or more priority levels with different compression levels;  
receiving data;  
assigning one of said priority levels ~~a priority level~~ to said data, wherein said priority level is based on a delay tolerance of said data and data supporting real time communication has a ~~high~~ higher priority level than data not supporting real time communication;  
~~determining~~ selecting a compression level for said data based on said priority level; and  
sending said data through said network.

Claim 2 (original): The method of claim 1 further comprising:  
compressing said data only if said priority level is below a threshold.

Claim 3 (previously presented). The method of claim 1 further comprising:  
compressing said data according to said priority level prior to sending said data through said network.

Claim 4 (previously presented): The method of claim 1 wherein  
determining said compression level comprises determining said compression level according to an inverse relationship between said compression level and said priority level so that high priority traffic is favored in allocating bandwidth.

Claim 5 (original): The method of claim 1 further comprising:

determining a compression level for said data based on said priority level and network congestion; and

compressing said data according to said priority level prior to sending said data through said network.

Claim 6 (original): The method of claim 5 wherein determining said compression level comprises determining said compression level according to an inverse relationship between said compression level and said priority level so that high priority traffic is favored in allocating bandwidth.

Claim 7 (original): The method of claim 1 further comprising;  
setting a threshold priority level for compression eligibility based on network congestion; and

compressing said data only if said priority level is below said threshold.

Claim 8 (original): The method of claim 1 wherein said priority level corresponds to a quality of service class.

Claim 9 (original): The method of claim 1 wherein said data comprises a packet.

Claim 10 (currently amended): In a digital communication network, a method for forwarding packets across said network, said method comprising:  
providing a data compression system having a variable compression level;  
inputting said packets to said data compression system while adjusting said variable compression level for individual ones of said packets responsive to priority level of said packets, wherein said priority level is based on a delay tolerance of said packets and data packets supporting real time communication has a high have a higher priority level than packets not supporting real time communication; and

sending said packets as compressed through said network.

Claim 11 (currently amended): In a digital communication network, apparatus for forwarding data across said network, said apparatus comprising:

a compression switch that receives said data and assigns a compression level to said data responsive to a priority level of said data, wherein said priority level is based on a delay tolerance of said data and data supporting real time communication has a high higher priority level than data not supporting real time communication;

a compression system that compresses said data according to said compression level; and

an output interface that forwards said data across said network as compressed by said compression system.

Claim 12 (original): The apparatus of claim 11 wherein said compression system assigns said compression level according to an inverse relationship between said compression level and said priority level so that high priority traffic is favored in allocating bandwidth.

Claim 13 (original): The apparatus of claim 11 further comprising:  
a network congestion estimator that determines network congestion; and  
wherein said compression switch assigns said compression level responsive to said network congestion.

Claim 14 (original): The apparatus of claim 11 wherein said data comprises a packet.

Claim 15 (original): The apparatus of claim 11 wherein said priority level corresponds to a quality of service class.

Claim 16 (currently amended): A computer program product for forwarding data across a network, said product comprising:  
code that assigns a priority level to said data, wherein said priority level is based on a delay tolerance of said data and data supporting real time communication has a high higher priority level than data not supporting real time communication;  
code that selects a compression level for said data based on said priority level;  
code that sends said data through said network; and  
a computer-readable storage medium that stores the codes.

Claim 17 (original): The product of claim 16 further comprising:  
code that compresses the data only if said priority level is below a threshold.

Claim 18 (original): The product of claim 16 further comprising:  
code that determines a compression level for said data based on said priority level; and  
code that compresses said data according to said priority level prior to sending said packet through said network.

Claim 19 (original): The product of claim 18 wherein said code that determines said compression level comprises code that determines said compression level according to an inverse relationship between said compression level and said priority level so that high priority traffic is favored in allocating bandwidth.

Claim 20 (original): The product of claim 16 further comprising:  
code that determines a compression level for said data based on said priority level and network congestion; and  
code that compresses said data according to said priority level prior to sending said data through said network.

Claim 21 (original): The product of claim 20 wherein said code that determines said compression level comprises code that determines said compression level according to an inverse relationship between said compression level and said priority level so that high priority traffic is favored in allocating bandwidth.

Claim 22 (original): The product of claim 16 further comprising;  
code that selects a threshold priority level for compression eligibility based on network congestion; and  
code that compresses said data only if said priority level is below said threshold.

Claim 23 (original): The product of claim 16 wherein said data comprises a packet.

Claim 24 (original): The product of claim 16 wherein said priority level corresponds to a quality of service class.

Claim 25 (currently amended): A computer program product for forwarding packets across a network, said product comprising:  
code that provides a data compression system having a variable compression level;  
code that inputs said packets to said data compression system while adjusting said variable compression level for individual ones of said packets responsive to priority level of said packets, wherein said priority level is based on a delay tolerance of said packets and data packets supporting real time communication has a high have a higher priority level than packets not supporting real time communication;  
code that sends said packets as compressed through said network; and  
a computer-readable storage medium that stores the codes.

Claim 26 (currently amended): In a data communication network, apparatus for forwarding data across said network, said apparatus comprising:  
means for assigning a priority level to said data, wherein said priority level is based on a delay tolerance of said data and data supporting real time communication has a ~~high~~ higher priority level than data not supporting real time communication;  
means for selecting said data for data compression responsive to said priority level; and  
means for sending said data through said network.

Claim 27 (currently amended): In a packet switched network, apparatus for forwarding packets across said network, said apparatus comprising:  
means for compressing data using a variable compression level;  
means for inputting said packets to said compressing means while adjusting said variable compression level for individual ones of said packets responsive to priority level of said packets, wherein said priority level is based on a delay tolerance of said packets and ~~data packets~~ supporting real time communication has a high priority level have a higher priority level than packets not supporting real time communication; and  
means for sending said packets as compressed through said network.

Claim 28 (previously presented): The method of claim 1 wherein said data compression comprises at least three different levels of compression corresponding to different priority levels.

Claim 29 (previously presented): The method of claim 1 wherein data having a low priority level assigned thereto has a higher compression level and a longer processing delay than data having a high priority assigned thereto.